

OPTICAL EMISSIONS OBSERVED IN COLLISIONS OF FAST $O(^3P)$ ATOMS WITH
GAS-PHASE AND SURFACE-ADSORBED SPECIES

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Recent results of optical emission observed with collisions of fast (5-20 eV), ground-state [$O(^3P)$] oxygen atoms with gas-phase and surface-adsorbed molecules will be presented. Molecular targets include hydrazine, monomethylhydrazine, and HCN; and surfaces are Ni, Ti, and MgF_2 . Use is made of the JPL atomic oxygen facility in which magnetically-confined $O(^3P)$ ions produced by dissociative attachment are accelerated to the desired final energy, and the electrons photodetached to produce exclusively $O(^3P)$ atoms [1-3].

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